expensive with leuprolide in Commercial plans. If full compliance is achieved, cost of treatment is lower with histrelin implants in both markets. The additional medical cost of non-compliance was not included in this model.

PDB31

TARGETED COST SAVING STRATEGIES IN DIABETES PREVENTION USING RISK STRATIFICATION

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OBJECTIVES: We sought to evaluate the impact of diabetes prevention costs and effectiveness on the projected return on investment (ROI) from the perspectives of a US health care payer and a large, self-insured employer using an improved risk stratification tool. **METHODS:** A model comprised of a closed cohort with four Markov health-states was developed to project diabetes-specific costs and offsets due to incident diabetes and utilization of prevention resources. Subjects identified as "at-risk" for diabetes in an annual health risk appraisal would be tested and stratified into high or moderate-to-low risk groups. Parameters of the screen for at-risk subjects were based upon published impaired fasting plasma glucose prevalence of an insured US population. High risk subjects optionally enter a diabetes prevention program. Parameters for the risk stratification test were based upon published data for a multiple biomarker risk assessment test (PreDx DRS). Cost inputs included direct and indirect medical costs of diabetes and pre-diabetes, and the cost of stratification testing ($250). A range of intervention costs and effectiveness were examined. Model outputs included projected costs, savings, and number of life years and diabetes-free years saved. **RESULTS:** At a published annual prevention program cost of $850 and intervention effectiveness of 58%, employers would see a positive ROI by year 2 that increases through year 5. Savings at year 5 represent a return of $1.71 for every $1 spent on diabetes prevention, with 167 diabetes cases prevented, 547 diabetes-free years and 6.3 life years saved per 10,000 employees. Payers could achieve cost savings at lower program costs and/or increased effectiveness. The ROI depends strongly on reported intervention effectiveness in the range of 31%-72% and is moderately sensitive to cost variations. **CONCLUSIONS:** Cost savings for employers and payers are possible using risk stratification in conjunction with an effective prevention program to reduce diabetes incidence.

PDB32

IMPACT OF HYPONATREMIA ON HEALTH CARE RESOURCE UTILIZATION IN DECOMPENSATED CIRRHOSIS PATIENTS

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OBJECTIVES: Hypervolemic hyponatremia (HN) is commonly found in patients with decompensated cirrhosis and is associated with increased mortality, morbidity and longer hospital stays. Despite its prevalence in hospitalized patients (15-30%), little is known of the effect of HN on cirrhotic patients in terms of resource utilization. The present study was designed to explore the impact of HN on cost, length of stay (LOS), ICU admission and 30, 90, 180-day readmission in hospitalized cirrhotic patients. **METHODS:** The Premier hospital database was utilized to identify US hospital inpatients discharged between January 1, 2007 and June 30, 2009. Hyponatremic cirrhotic patients were identified using primary or secondary ICD-9-CM codes and were matched to a control group using exact matching on age, gender, provider region and MS-DRG assignment. Matching was further refined using propensity scores based on additional patient and hospital covariates. The final analytic sample contained 3,765 cirrhotic hyponatremia patients and 25,549 cirrhotic non-hyponatremia patients. Cost was analyzed using gamma regression, LOS with negative binomial regression. ICU admission and hospital readmission were analyzed using multivariate logistic regression. **RESULTS:** In contrast to non-hyponatremic cirrhotic patients, hyponatremic patients with cirrhosis had significantly higher total inpatient cost (80.56%, CI=61.95-101.31; p<0.0001), ICU cost (64.36%; CI=38.51-95.01; p<.0001), total LOS (63.10%, CI=52.96-73.92; p<0.0001), and ICU LOS (62.39%, CI=40.26-88.02; p<.0001). Hyponatremic cirrhotic patients were significantly more likely to be admitted to the ICU (OR=2.10; p<0.0001) and readmitted at 30- (OR=1.38; p<0.0003), 90- (OR=1.26; p<0.0025), and 180-days (OR=1.25; p<0.0026) in comparison with non-hyponatremic cirrhotic patients. **CONCLUSIONS:** The presence of HN in hospitalized cirrhotic patients is significantly associated with increased total and ICU cost and LOS, likelihood of ICU admission and 30, 90, 180-day readmission.

PDB33

THE ASSOCIATED COSTS OF TREATING TYPE 2 DIABETES PATIENTS TO A CLINICALLY RELEVANT COMPOSITE ENDPOINT WITH LIRAGLUTIDE VERSUS EXENATIDE

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OBJECTIVES: A common challenge in the management of type 2 diabetes is to achieve glycemic control while avoiding side effects, such as weight gain and hypoglycemia. Assessing the cost of achieving a clinically relevant composite endpoint of HbA1c<7%, no weight gain, and no hypoglycemia may be useful for evaluation and comparison of diabetes treatments. The objective of this study is to estimate the cost per successfully treated patient, to this composite endpoint, when treated with either liraglutide 1.8mg once-daily or exenatide 10μg twice-daily. **METHODS:** A recently conducted meta-analysis (Zinman et al. 2012) estimated the percentage of patients achieving the composite endpoint of HbA1c<7%, no weight gain and no hypoglycemia for liraglutide versus comparator therapies and placebo. The cost per successfully treated patient for liraglutide 1.8mg and exenatide 10μg was calculated as the total acquisition costs over 26 weeks (incl. cost of needles) divided by the percentage of patients reaching the composite endpoint. **RESULTS:** After 26 weeks, 40% of patients treated with liraglutide 1.8mg (n=1,513) were estimated to reach the clinically relevant triple composite endpoint versus 25% when treated with exenatide 10μg (n=186) (p<0.001). Over 26 weeks the calculated costs per successfully treated patient were lower with liraglutide 1.8mg once-daily ($6641) than exenatide 10$\mu$g twice-daily ($7535). **CONCLUSIONS:** When relating the cost of treatment directly to a clinically relevant composite outcome, as defined by the percentage of patients reaching an HbA1c target below 7%, no weight gain and no hypoglycemia, liraglutide 1.8mg once-daily showed lower costs per successfully treated patient than exenatide 10μg twice-daily, over a 26-week period.

PDB34

REAL-WORLD HEALTH CARE UTILIZATION, PRODUCTIVITY AND ASSOCIATED COSTS AMONG EMPLOYEES WITH TYPE 2 DIABETES MELLITUS TREATED WITH INSULIN GLARGINE OR NEUTRAL PROTAMINE HAGEDORN (NPH) INSULIN IN THE UNITED STATES

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OBJECTIVES: To assess real-world outcomes among US employees with type 2 diabetes mellitus (T2DM) initiating insulin therapy via insulin glargine (GLA) or NPH insulin. **METHODS:** This retrospective analysis used MarketScan® databases to identify employees with T2DM who initiated GLA or NPH, had continuous health plan and short-term-disability (STD) coverage for 3-month pre- (baseline) and 1-year post-initiation (follow-up), were insulin-naïve but received ≥1 oral anti-diabetes drug (OAD) and/or glucagon-like peptide-1 during baseline period. Endpoints included 1-year treatment persistence (continuous study drug use without discontinuation) and adherence (adjusted medication possession ratio), hypoglycemia, healthcare utilization and costs, STD and associated cost. Observed baseline selection bias between these two cohorts was addressed by 2:1 propensity score matching (PSM). **RESULTS:** A total of 534 patients (GLA: 356, NPH: 178) were matched and analyzed (women 43.8%; baseline mean age 49 year; hospitalization 15.3%; # of OADs 1.8; STD: 3.0 days). During follow-up, patients receiving GLA, comparing to NPH, were significantly more persistent and adherent (both P<0.05), had lower rates of hospitalization (23.0% vs. 31.4%; P=0.036) and endocrinologist visits (19.1% vs. 26.9%; P=0.038), similar hypoglycemia-related event rates (both 4.4%; P=1.0), higher diabetes drug costs ($1,915 vs. $1,442; P<0.001) but similar total overall healthcare costs ($13,822 vs. $15,170; P=0.488) and total diabetes-related health care costs ($4,474 vs $5,235; P=0.466). STD days and associated cost were marginally lower for GLA than NPH (16.0 vs. 24.5 days, $2,680 vs. $4,118; both P=0.086). Sensitivity analyses using 1:1 and 3:1 PSM yielded consistent results. **CONCLUSIONS:** This study suggested that among US employees with T2DM initiating insulin, compared to NPH, GLA was associated with improved persistence and adherence and similar direct health care cost despite higher drug costs. GLA was also associated with lower hospitalization rate, which further led to shorter STD days and associated cost, and might help improve workplace productivity.

PDB35

EVALUATION OF COST OFFSET ASSOCIATED WITH TOLVAPTAN USAGE AMONG HYPONATREMIC SIADH PATIENTS IN THE UNITED STATES, BASED ON THE SALT-1 AND SALT-2 TRIALS

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OBJECTIVES: Randomized clinical trials, SALT-1 and SALT-2, showed that tolvaptan was an efficacious and safe therapy for the treatment of hyponatremic SIADH (Syndrome of Inappropriate Antidiuretic Hormone Secretion) and was associated with a reduction in the length of stay (LOS) in the hospital for SIADH patients. This study evaluated the medical cost offsets associated with tolvaptan usage based on the SALT-1 and SALT-2 trials. **METHODS:** The Healthcare Cost and Utilization Project (HCUP) 2009 Nationwide Inpatient Sample (NIS) database was used to estimate LOS and hospital cost of SIADH patients (age ≥18 years) in the United States. A cost offset model was constructed and utilized to evaluate the impact of tolvaptan on hospital cost and LOS, with univariate and multivariate Monte Carlo sensitivity analyses. **RESULTS:** In the SALT-1 and SALT-2 trials, SIADH patients receiving tolvaptan had a shorter hospital LOS than placebo patients (4.98 vs. 6.19 days). From the HCUP NIS database, 21,718 SIADH hospitalizations were identified, with a mean LOS of 5.7 days and mean hospital costs of $8667. With an inpatient tolvaptan treatment duration of 4 days, the cost offset model estimated that tolvaptan usage was associated with a mean LOS reduction of 1.1 days and a hospital cost saving of $694 per admission. The cost reduction ranged from $355 to $1033 with variations of any single modeling parameter. 10,000 cycles of Monte Carlo simulation showed the 95% confidence interval for cost saving to be $73−$1,405, with 98.8% cycles having a positive net cost saving. The total cost saving was estimated to be $15 million among the HCUP/SIADH population. **CONCLUSIONS:** Based on the SALT-1 and SALT-2 trials, tolvaptan usage versus placebo is associated with a shorter hospital LOS. This study showed that tolvaptan usage versus placebo is additionally associated with lower hospital costs among hyponatremic SIADH patients in the United States.